

**ABSTRACT**

In a communication network that includes a plurality of nodes interconnected by links, a method for routing a data flow includes receiving a request to allocate one or more resources in the network so as to carry the data flow between first and second ones of the nodes over one of a plurality of paths therebetween, each such path including a respective sequence of the links. For the links included in each of the paths, respective levels of use of the requested resources due to communications in process over the network are determined. The path that is to carry the data flow is selected responsive to the determined levels of use of the requested resources on the links included in each of the paths.